IN THE CLAIMS

Claims 1-46 (cancelled)

47. (currently amended) A method for determining the suitability of a wire communication line for xDSL service via single-ended analysis, comprising:
a) obtaining a return waveform by using a TDR at a single end ~~customer side~~ of the wire communication line;
b) determining a transfer function based on the return waveform, the transfer function representing a signal strength or signal loss for each of the plurality of xDSL frequency bands;
c) measuring wideband noise at a ~~the~~ customer side of the wire communication line; and
d) determining the signal to noise ratio based on the determined transfer function and the measured noise so as to qualify the wire communication line for xDSL use;
wherein step d) includes comparing the return waveform against a library of known transfer functions that represent known wire plant models to estimate the transfer function of the wire communication line.

48. (currently amended) The method according to claim 47, wherein ~~the~~ step d) ~~of determining~~ includes:

deriving a plant map of the wire communication line from the return waveform, the plant map representing the structural layout of the wire communication line; and

deriving the transfer function by performing circuit modeling analysis on the plant map.

49. (cancelled)

50. (currently amended) The method according to claim 47, wherein ~~the~~ step c) ~~of measuring a wideband noise~~ includes obtaining a noise signal over the plurality of xDSL frequency bands of the wire communication line

51. (currently amended) A method for determining the suitability of a wire communication line for xDSL service use via single-ended analysis, comprising the steps of:
a) receiving a return waveform by using a TDR at a single end ~~customer side~~ of a wire communication line;
b) determining a plant map of the wire communication line based on the received return waveform, the plant map representing a physical layout of the wire communication line;
c) determining a transfer function representative of the determined plant map;
d) measuring wideband noise at a ~~the~~ customer side of the wire communication line; and
e) determining the signal to noise ratio based on the determined transfer function and the measured noise so as to qualify the wire communication line for xDSL use;
wherein steps b) and c) include comparing the return waveform against a library of known transfer functions that represent known wire plant models to estimate the transfer function of the wire communication line.

52. (currently amended) The method according to claim 51, wherein ~~the~~ step b) ~~of determining a plant map~~ includes determining a wire gauge and length of the wire communication line.

53. (cancelled)

54. (currently amended) The method according to claim 51, wherein ~~the~~ step c) ~~of determining a transfer function~~ includes determining the complex impedance of the wire communication line.

55. (currently amended) The method according to claim 54, wherein ~~the~~ step c) ~~of determining a transfer function~~ includes performing circuit modeling analysis on the plant map.

56. (cancelled)

57. (currently amended) The method according to claim 51, further comprising step f) determining a bit rate for the wire communication line based on the signal to noise ratio.

58. (currently amended) The method according to claim 57, wherein ~~the~~ step f) ~~of analyzing~~ further includes determining a maximum bit rate and confidence factor based on the determined bit rate and the signal-to-noise ratio for the wire communication line.

59. (currently amended) The method according to claim 51, wherein ~~the~~ step c) ~~of determining a transfer function~~ includes deriving the transfer function by performing circuit modeling analysis on the plant map.

60. (cancelled)

61. (currently amended) A system for conducting single-ended qualification of wire communication lines for xDSL use, comprising:

a TDR ~~TDK~~ that transmits a signal at a single end ~~customer-side~~ of a wire communication line and receives a return waveform; and

a controller device connected to the TDR and operable to determine a transfer function based on the received return waveform, to measure wideband noise at a ~~the~~ customer side of the wire communication line and to determine the signal to noise ratio based on the determined transfer function and the measured noise so as to qualify the wire communication line for xDSL use, the transfer function representing a signal strength or loss for each of the plurality of xDSL frequency bands of the wire communication line;

wherein the controller device determines the transfer function by comparing the return waveform against a library of known transfer functions that represent known wire plant models.

62. (previously presented) The system according to claim 61, wherein the controller device determines the transfer function by:

deriving a plant map of the wire communication line from the return waveform received by the TDR wherein the plant map represents the structural layout of the wire communication line; and

performing circuit modeling analysis on the derived plant map.

63. (cancelled)

64. (currently amended) A method for determining the suitability of a wire communication line for xDSL service via single-ended analysis, comprising:

transmitting by a TDR a test signal at a single end ~~customer-side~~ of the wire communication line;

obtaining a return waveform of the transmitted test signal;

determining a signal strength or loss of the wire communication line for each of the plurality of xDSL frequency bands based on the obtained return waveform, wherein the step of determining the signal strength or loss includes comparing the obtained return waveform against a library of known signal strengths or losses that represent known wire plant models; and

calculating a bit rate of the wire communication line for xDSL use based on the determined signal strength or loss.

65. (previously presented) The method according to claim 64, further comprising:

obtaining a noise signal over the plurality of xDSL frequency bands of the wire communication line;

wherein the step of calculating includes determining the S/N ratio based on the determined signal strength or loss and the obtained noise signal.

66. (previously presented) The method according to claim 65, wherein the step of calculating further includes determining a confidence factor of the calculated bit rate.

67. (cancelled)

68. (previously presented) The method according to claim 64, wherein the step of deriving a plant map includes determining a wire gauge and length of the wire communication line.

69. (cancelled)